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THE REGULATION OF RURAL MARKETS IN AFRICA

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ABSTRACT

This paper argues that government policy in Africa tends to produce a harsh economic environment for the producers of agricultural products, and that a major effect may well be declines in agricultural production in that continent. Government bureaucracies control agricultural markets and set prices within them. Commercial policy is manipulated in ways that adversely affect the incomes of farmers. Pricing policies tend to be low price policies. A variety of pressures -- some deriving from the need for taxes and foreign exchange; others from political pressures brought to bear by organized interests -- drive these policy choices. But the general result is a weakening of the incentives for agriculture.

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Introduction

African societies are largely agrarian. In most African economies, agriculture generates nearly 50 percent of the gross domestic product and employs more than 70 percent of the labor force. Agriculture provides nearly one-third of Africa's merchandise exports; prior to the discovery of oil in Africa, it provided nearly two-thirds.

Farming in Africa remains overwhelmingly in private hands. Perhaps the most intense attempt at socialized production took place in Nkrumah's Ghana in the 1960s. But Dodson's careful study of that effort reveals that at no point did more than one percent of the production of any given crop originate in the public sector.[1] African agriculture is dominated by small-scale family farms.

Nonetheless, government intervention is a significant factor in the economics of African agriculture. While occasionally taking the form of public production, it more commonly takes the form of market intervention. This paper will study the forms of market intervention engaged in by African governments and analyze their impact on the incentives faced by private producers of agricultural products.

Export Agriculture

It is useful to distinguish between two kinds of agricultural commodities: food crops, many of which could be directly consumed on the farm, and cash crops, few of which are directly consumable and which are instead marketed as a source of cash income. Many cash crops are in fact exported; they provide not only a source of cash incomes for farm families but also a source of foreign exchange for the national economies of Africa. The major export crops include:

Beverages: coffee, tea and cocoa

Vegetable oils: palm oil, palm kernels, cotton seed and groundnuts

Fibers: cotton and sisal

Others: sugar, bananas, tobacco, rubber, maize, hides and skins

An important feature of the African economies is the nature of the marketing systems employed for the purchase and exportation of these crops. The crops are grown by private farm families. But they are then sold through official, state-controlled marketing channels. At the local level, these channels may take the form of licensed agents or registered private buyers; they may also take the form of cooperative societies or farmers' associations. But the regulated nature of the marketing system is clearly revealed in the fact that these primary purchasing agencies can in most cases sell to but one purchaser: a state-owned body, commonly known as a marketing board.

Background

The origins of these boards are diverse. In some cases, particularly in the former settler territories, they were formed by farmers themselves. Commercial farmers banded together in efforts to "stabilize" the markets for cash crops; in effect, with the support of the colonial states which they dominated, they sought to create producer-dominated cartels.[2] More commonly, the origins of the marketing boards lay in an alternative source of cartel formation: in the efforts of the purchasers and exporters of cash crops to dominate the markets and to force lower prices on farmers.[3]

In either case, it was World War II which led to the institutionalization of the regulation of export markets. During the war, Britain sought to procure agricultural commodities and raw materials from her colonial dependencies. Some materials, such as food for troops in North Africa, were needed for the war effort; others were needed to generate foreign exchange for the purchase of armaments from North America; and the purchase of still other goods was required to provide prosperity for the colonial areas and thereby to lessen the likelihood of political instability at a time in which British forces were already spread perilously thin. To secure the regularized purchase of raw materials, the British government created a Ministry of Supply. The ministry signed bulk purchasing agreements with the colonial governments in each of the African territories.[4] And to administer the terms of these agreements, the colonial authorities created official state marketing agencies. In those territories where

large-scale producers had already begun to operate "market stabilizing" schemes, the organizations running these schemes were essentially recruited full-scale to staff and administer the state marketing boards.[5] In the territories where purchasers' cartels held a predominance of market power, the state procurement schemes essentially gave a legal framework for the merchant-based cartels; the cartels became the instruments for securing raw materials.[6]

In either case, upon independence, many African governments found themselves the inheritors of bureaucracies which held a legal monopoly over the purchase and export of commodities in the most valuable sector of their domestic economies. These new states possessed extremely powerful instruments of market intervention. They could purchase export crops at an administratively set, low domestic price; they could then market these crops at the prevailing world price; and they could accumulate the revenues generated by the difference between the domestic and world prices for these commodities. A central question thus became: for whose benefit were the funds to be employed?

Government Taxation

Initially, the revenues were to be kept in the form of a price assistance fund and used for the benefit of the farmers. At times of low international prices, they were to be employed to support domestic prices and so shelter the farmers from the vagaries of the world market. In the case of the Western Nigerian marketing board, for

example, 70 percent of the board's revenues were to be retained for such purposes. But commitments to employ the funds for the benefit of the farmers proved short-lived. They were overborn by ambitions to implement development programs and by political pressures brought to bear upon goverments from non-agricultural sectors of the economy.

One example is the Cotton Price Assistance Fund, accumulated by the Lint Marketing Board in Uganda. While employed to stabilize prices in the 1950s, it was increasingly used thereafter for other purposes. In the pre-Independence period, for example, it was used to secure revenues for the building of the Owen's Falls Dam; while the fund purchased shares in the Uganda Electricity Board -- the agency responsible for the dam -- it has received no dividends from these shares (and they have declined in value). In the 1960s, the fund "loaned" 100 million Ushs. to the government for investment in the capital budget, interest free! Still later, it was employed to capitalize the Cooperative Development Bank with a twelve million Ushs. contribution, again interest free, repayable over 35 years.[7] Similar patterns appear to characterize the use of the Coffee Price Assistance Fund in Uganda, a fact that led one commission of inquiry to state:

> To the extent that huge sums of money were diverted to other industries at the farmers' costly sacrifice, the wrath and indignation of the farmer is understandable and must be sympathized with. In saying this we are not unaware that in a developing country like ours where sustained growth must, to some extent, depend on the country's ability to effect diversification, financial resources must of necessity cross the boundary of economic sectors. The important consideration should not, however, veil the equally important natural fact that human sacrifice is not inexhaustable. It is our view, therefore, that it was not fair to exact from the coffee grower the disproportionate contribution he made to the development of other industries.[8]

Similarly, in West Africa, the revenues of the marketing boards were increasingly diverted to uses other than the stabilization of farmers' incomes. In Nigeria, for example, funds were first loaned to the regional governments; later, they were given to these governments in the form of grants; later still, the legislation governing the use of these revenues was altered such that the boards became instruments of direct taxation.[9] We have already noted that the statutes governing the marketing boards in Western Nigeria reserved 70 percent of the trading surpluses for price stabilization; an additional 7.5 percent was to be employed for agricultural research and the remaining 22.5 percent for general development purposes. But Helleiner notes that following self-government:

> The Western Region's 1955-1960 development plan announced . . . the abandonment of the "70-22.5-7.5" formula for distribution of the Western Board's right to contribute to development, and provided for £20 million in loans and grants to come from the

Board for the use of the Regional Government during the plan . . .

[The Board] was now obviously intended to run a trading surplus to finance the regional Government's program. The Western Region Marketing Board had by now become . . . a fiscal arm of the Western Nigerian Government.[10]

This transition was followed as well in Ghana, where "the government decided to remove . . . legal restrictions on its access to the funds of the Board."[11]

The movement from an instrument of price stabilization, largely for the benefit of farmers, to an instrument of taxation, with the diversion of revenues to non-farm sectors, can be seen as well in changes in the pricing formulas employed by the marketing boards. Insofar as the boards were employed to stabilize producer prices, the domestic prices -- i.e. the price offered the farmers -- should have moved independently of the world prices; moreover, a policy of price stabilization implies that domestic prices should have at times exceeded world prices, as the marketing board attempted to protect farmers from falls in the world price. But domestic prices rarely exceed world prices.

The nature of the pricing policy is suggested in the price-setting methods employed in Uganda in 1981. The annual price setting exercise for coffee, cotton and other exports was a matter of state. The initial negotiations involved not only the departments involved in agriculture -- the Minstry of Agriculture and the Ministry of

Cooperatives and Marketing -- but also the Ministry of Finance, whose primary concern is with securing government revenues, and the governors of the Bank of Uganda, whose primary concern is with generating foreign exchange. Negotiations among these parties culminated in the formulation of a top-secret document outlining the pricing formula for the next agricultural season, a document which was then debated and ratified by the cabinet.

If the parties to this price setting exercise suggest the political nature of pricing policy, then the formula which they employed suggests its distributional impact. In connection with the technical experts in the marketing boards, the government forcast -- on a highly conservative basis -- the world market price for the pending crop year. It then deducted from that price the unit cost of export marketing (i.e. the costs of the marketing board) and export taxes. The costs of crop collection and preliminary processing (i.e. the take of the cooperative societies) were then deducted, and <u>the balance</u> constituted the price paid out to the farmers. In essence, it was the farmers who got the residual share. And it was the farmers who absorbed all the risks; the proceeds to the government and the marketing agencies came off the top and so were guaranteed.

That this procedure was followed elsewhere is shown by the response of the West African governments to the £50 per ton fall in the price of cocoa in the early 1960s. The governments of both Ghana and Nigeria passed on the full burden of the drop in price to the producers; rather than protecting the producers, they instead acted to

stabilize the magnitude of the surpluses which they accumulated from them.[12] It is also suggested by the analysis undertaken by Bovet and Unnevehr in their study of agricultural pricing in Togo.[13] The government of Togo, they argue, sets export prices as if it were seeking to maximize its offtake of revenues from the export industry. Letting NR stand for net revenues, Q for the quantity of exports, P_L for the domestic price and P_W for world prices, then:

$$NR = P_W Q - P_L Q = Q(P_W - P_L).$$

If the government seeks to maximize its net revenues, then it will choose a domestic price, P_L, so as to

$$\underset{(P_L)}{\text{Max}}\ NR = Q(P_W - P_L).$$

Simple calculus yields the first order conditions for this maximization:[14]

$$\frac{\partial Q}{\partial P_L} P_W - \frac{\partial Q}{\partial P_L} P_L - Q = 0$$

Multiplying both sides by $\frac{P_L}{Q}$ yields:

$$\left(\frac{\partial Q}{\partial P_L} \cdot \frac{P_L}{Q}\right) P_W - \left(\frac{\partial Q}{\partial P_L} \cdot \frac{P_L}{Q}\right) P_L - P_L = 0.$$

Or, simplifying,

$$\frac{P_L}{P_W} = \frac{\eta}{\eta + 1}$$

where η = the price elasticity of production.

Given knowledge of the elasticity of production, then, the government could establish a ratio of the local to world price which would maximize the revenues it earned from the export of the commodity. On the basis of the evidence they collected, Bovet and Unnevehr are convinced that the government of Togo is doing just that. As they conclude,

> The elasticity of short-term supply was estimated at .51. Using this elasicity optimal revenue maximizing prices were calculated for 1967-76. The results show that [marketing board pricing] policies have maximized government revenues.[15]

Marketing Cost

Thus far I have argued that African governments intervene in the markets for export crops so as to amass government revenues and that they do so by using monopsonistic[16] state agencies to depress domestic prices below world prices, appropriating the difference in the form of state revenues. It is important to realize, however, that this form of state intervention in export markets yields an additional consequence: an inflation of the costs of marketing. The marketing

boards themselves come to impose significant costs upon export industries.

The marketing boards are monopsonies; it is from being so that they achieve the market power by which to control export prices. But the economic premium they can command as a consequence of this market power they can -- and do -- consume in the form of inflated costs. Evidence of this is the exhorbitant staffing to which many have become accustomed; as noted in one commission of inquiry in Ghana:

> The evidence before us suggests that the [Cocoa Marketing Board] used the profits obtained from its monopoly cocoa operations to . . . provide funds for the dance band, footballers, actors and actresses, and a whole host of satellite units and individuals. . . . The C.M.B.'s area of operations . . . embraces activities and involves a staff which would have appeared absurd only ten years ago.[17]

Evidence is also contained in the ability of the marketing personnel to use their market power to enhance their personal incomes; this too was noted in the report of the commission:

> Farmers often referred to the opulence of the Secretary Receivers [the officials who operate the local buying stations]. It was alleged that these officers who earned ₤G 180 per annum owned cars, trucks, buildings, etc. and often supported as many as three wives. We saw some Secretary Receivers owning Mercedes. . . .[18]

Similar abuses pervade the upper levels of the marketing bureaucracy. Thus recent inquiries into the Cocoa Marketing Board suggest the extent to which the directors of the Board divert the trading surpluses accumulated from farmers into their own pockets. As West Africa reported:

> Commander Addo, former chief executive of the Cocoa Marketing Board, retold the committee investigating its affairs that the C.M.B. spent nearly £1 m. on drinks alone between August 1977 and July 1, 1978. Giving evidence, Commander Addo said during his tenure of office he instituted certain measures to boost the morale of the directors. As part of these measures, he said, all the eight or ten directors were given a bottle each of whisky, brandy, and gin at the end of each month in addition to receiving a . . . table allowance.[19]

The inefficiency of the boards is thus suggested in the costs they impose for providing their marketing services. It is also suggested in their inability to tailor their costs to their volume of business. The consequence is that unit costs of marketing have increased and have done so particularly at times of declining export volumes. These trends are illustrated in the figures in table 1 which are drawn from the records of the Coffee and Lint Marketing Boards in Uganda.

TABLE 1: Inflation of Marketing Costs

Coffee Marketing Board	Total Expenditures (M. Ushs.) Estimated	Actual	Quantity of Buyers	Costs Per Buyer (Ushs.) Estimated	Actual
1974/75	124.2	114.6	2,861,399	42.8	40.0
1975/76	153.5	80.6	2,431,524	64.0	33.6
1976/77	261.6	216.3	2,449,737	104.6	90.1
1977/78	411.6	221.3	1,742,575	242.1	130.2
Lint Marketing Board					
1975/76	14.0	21.1	133,468	104.8	138.1
1976/77	25.5	17.3	74,422	342.6	232.5
1977/78	26.6	19.1	108,367	245.5	176.3
1978/79	18.0	13.0	40,000	450.0	325.0
1979/80	17.9	15.5	22,000	813.6	704.5

Source: From Annual Estimates, Lint Marketing Board; Annual Estimates, Coffee Marketing Board.

The inefficiency of the marketing boards, it should be noted, derives not only from their position of market power; it derives as well from the fiscal system under which they operate. Characteristic is the legislation governing the Coffee Marketing Board in Uganda. As noted in the Coffee Marketing Act

> (5) If at the end of any year the accounts of the Board reveal a profit on its trading operations . . . such profit shall be paid into the [Coffee Price Assistance] fund within six months of the end of that year.
>
> (6) If at the end of any year the accounts of the Board reveal a deficit in its trading operations . . . the Treasury shall, within six months of the end of that year, or as soon thereafter as may be practicable, pay to the Board . . . a sum equal to the amount of the deficit.[20]

The purposes underlying this fiscal system are clear: as a public authority, the Board is not to make a profit; nor is it to run at a loss. But in fact the incentives created by the fiscal system, are highly perverse. For, by section 6, the Board is protected against all cost overruns; under this fiscal system, irrespective of its costs, the Board cannot make a loss. Further weakening incentives to minimize the costs of marketing are the provisions of section 5; should the Board operate efficiently and produce a surplus, then, under the provisions of this section, any resulting "profits" will be seized by the Treasury. The Board therefore does best by inflating its costs, for then it can consume any benefits which can be generated by its revenues, rather than having these seized by the Treasury; and it need not fear consuming at too high a level, for the Treasury must cover any losses. Rather than creating incentives to generate trading surpluses, then, the fiscal system of the Board instead creates incentives to generate higher salaries, inflated payrolls, lavish offices, excessive travel allowances, and other perquisites. The

fiscal system of the Board promotes inflated marketing costs.

Noting these patterns in the marketing system of Africa, some observers, and in particularly Frank Ellis of the Economic Research Bureau of the University of Dar es Salaam, have gone so far as to posit a "law of rising unit costs." "The basic mechanism of the law," Ellis writes

> rests in the impact on unit marketing costs of fluctuation in the volume of produce handled when the marketing system is characterized by high fixed overheads. The effect of a reduction in output is to increase the unit costs of marketing in approximate proportion to the share of overheads in total costs. These higher unit costs are then discounted from the export price for the following crop season, resulting in a lower producer price than would be warranted by the external market situation, and resulting in a further fall in output. There then appears a self-perpetuating process whereby the producer obtains a progressively smaller proportion of the export price realized by the parastatal authority.[21]

Consequences

While Ellis may in fact be overstating the case, there is enough substance to his argument that one must be troubled by it. In any case, certain facts are clear, and foremost among them is that the system of export marketing serves to lower farm gate prices. Some evidence of this is contained in the Appendix. There it can be seen

that the domestic prices offered farmers for export crops rarely exceed 75 percent, often lie below 50 percent, and not infrequently even lie below one-third the level of international prices. Table 2 presents the results of an analogous exercise, performed by the World Bank; the figures represent the ratio of domestic prices to world prices, adjusted for the costs of transport, marketing and processing. In interpreting these figures, note should be taken of the World Bank's commentary regarding them:

> The actual level of taxation of export crops is higher than shown in two important respects. In the first place, the economic farm gate value of these crops has been derived on the basis of actual marketing costs. These costs are, in most cases, those of monopolistic agencies working without competitive pressure, and thus are generally inflated. If the marketing cost of an efficient marketing system were used instead, the economic value of crops would be higher and the degree of implicit taxation even greater. The level of taxation is also higher than shown because the NPCs do not reflect the influence of over-valued currencies, which reduce the proceeds of exports in terms of domestic currency. Taking into account the effect of overvalued currency, producers in a number of countries listed in the table received less than half the real value of their crops in recent years.[22]

From the private producer's point of view, not only does the domestic marketing systems for exports lower the price of cash crops;

TABLE 2

Nominal Protection Coefficients for Selected Export Crops

Crop	1971-75	1976-80
Cocoa		
Cameroons	.37	.45
Ghana	.47	.40
Ivory Coast	.56	.38
Togo	.50	.25
Coffee		
Cameroons (Arabica)	.72	.60
Cameroons (Robusta)	. . .	.36
Ivory Coast	.68	.36
Kenya	.94	. . .
Tanzania	.80	.59
Togo	.42	.23
Cotton		
Cameroons	. . .	.79
Ivory Coast	.79	1.05
Kenya	1.07	. . .
Malawi	.68	.75
Mali	.55	.44
Senegal	.65	. . .
Sudan	.78	.70
Togo	.62	.79
Upper Volta	. . .	.79

Source: IBRD, Accelerated Development in Sub-Saharan Africa: An Agenda for Action, Washington, D.C.: IBRD, 1981, p. 56.

it also shifts relative prices in favor of the production of other commodities. This phenomenon is illustrated in table 3, which compares the net return of five major export corps in Uganda (cotton, robusta coffee, tea, cocoa, and tobacco) with the net return to five commodities for which government controls did not exist (maize, millet, beans, groundnuts, and plantains).

TABLE 3

Comparative Net Returns of Major Crops

in 1975 and 1977/78 in Uganda[a]

(Shillings per kilogram, estimated)

	1975	1977/78
1. Seed Cotton	-1.37	-3.40
2. Robusta Coffee	-0.38	+0.74
3. Tea (Green Leaf)	-0.16	-0.31
4. Cocoa	-0.25	-0.10
5. Fire-cured Tobacco	N.A.	-12.20
6. Maize	+0.68	+2.07
7. Finger Millet	+1.36	+5.08
8. Beans	+1.90	+5.05
9. Groundnuts	N.A.	+5.64
10. Plantains	+1.03	+1.90

a. Net returns equals average price less average costs.

Source: Ministry of Agriculture and Forestry, "Pricing Policy and Agricultural Production: Discussion Paper," (Entebbe: Ministry of Agriculture and Forestry, August 1978), Appendix II.

Non-Bureaucratic Factors

Thus far this paper has focused on the administration regulation of export crops and noted the ways in which government bureaucracies lower the price of export crops and thereby redistribute

resources from the farmers to the state and to the bureaucracies themselves. Highly important non-administrative systems also operate to undermine the incentives for export crop production. Perhaps the most significant of these is the exchange rate.

African currencies tend to be overvalued. Illustrative of this is the data in table 4, which shows that on the average the thirteen nations studied in 1979 maintained currencies which were overvalued by 38 percent; data in other sources suggest that this is a highly conservative estimate.[23]

TABLE 4: Estimates of the Overvaluation of Domestic Currencies, 1979

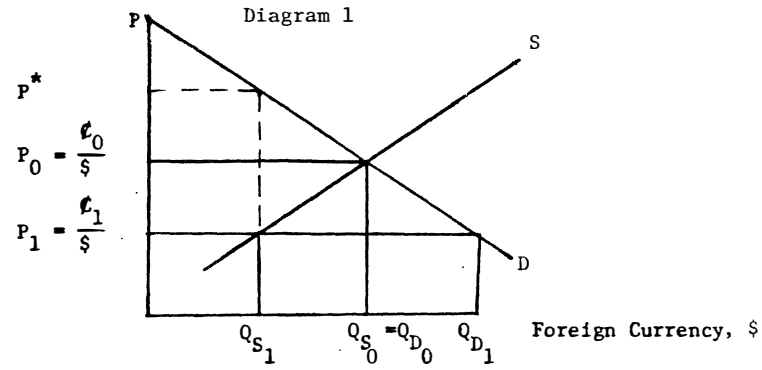
Cameroons	1.00
Ghana	3.00
Ivory Coast	1.10
Kenya	1.40
Malawi	1.05
Mali	1.10
Nigeria	1.40
Senegal	1.40
Sudan	1.30
Tanzania	1.50
Togo	1.10
Upper Volta	1.10
Zambia	1.50

Source: Doris J. Jansen, "Agricultural Pricing Policy in Sub-Saharan Africa in the 1970s," December, 1980.

The effect of overvaluation is straightforward. By maintaining an artificially strong currency, governments lower the perceived price of foreign products. But they do so by lowering the value (in terms of the domestic currency) of the earnings generated abroad by exports; foreign "dollars" convert into fewer units of domestic currency, for its value has been set at an artificially high level. Another effect of overvaluation is to generate shortages of foreign exchange. By encouraging imports and discouraging exports, overvaluation insures that more foreign exchange is demanded than is earned.

These effects can be summarized in diagram 1.

Diagram 1



The horizontal axis indicates the quantity of foreign goods, which are indexed in terms of dollars ($), demanded or supplied; the vertical axis represents their price in terms of domestic currency, here called cedis (¢). The supply curve is the marginal cost curve of the export

industry; it shows the amount of exports (or dollars) which will be supplied for any given valuation of the local currency. The demand curve represents the demand for imports (or foreign dollars) given their perceived price in terms of cedis. Overvaluing the cedi (from $¢_0$ to $¢_1$) lowers the cedi price of the dollar (from P_0 to P_1). The result is to cheapen imports, thereby increasing the demand for them (from Q_{D_0} to Q_{D_1}); to weaken the incentives to export, so that the supply of foreign exchange goes from Q_{S_0} to Q_{S_1}; and to create a shortage in foreign exchange or an excess demand for imports ($Q_{D_1} > Q_{S_1}$).

The major implication for export agriculture should be obvious: overvaluing the currency reduces the value of exports and so undermines the incentives to supply cash crops for shipment to foreign markets. In terms of the diagram, the effect is to shift export earnings from Q_{S_0} to Q_{S_1}. This effect is major and profound. The overvaluation of African currencies imposes a tax on export agriculture, weakens the incentives for cash crop production, and leads to a decline in the production of export and the generation of export currency.

But, in significant ways, the effect of overvaluation goes even deeper than this. For overvaluation also tends to increase the costs of farmers and to lower the real value of their earnings; and it does so while placing farmers under the economic and political control of persons with political influence. Overvaluation helps to promote

the economic and political bondage of farmers.

To gain insight into this effect, we may return to diagram 1. At the overvalued worth of domestic currency (P_1), the quantity of foreign exchange demanded (Q_{D_1}) is greater than the quantity supplied (Q_{S_1}); there is thus an excess demand for foreign exchange at the official price for it (i.e. at the official exchange rate). One result of this induced scarcity is to drive up the market value of foreign exchange; those who can get it can sell it at a price that lies significantly above the official price. As can be seen in diagram 1, with Q_{S_1} supplied at the official exchange rate the market clearing price would in fact be P^* (i.e. where demand equals supply). Another result is that at the official exchange rate demand can only equal supply through rationing; fixing the price at P_1 maintains a condition of excess demand ($Q_{D_1} > Q_{S_1}$) and those in control of allocating foreign exchange can choose those who will -- and will not -- get a chance to import foreign goods.

The consequences are obvious. Those in change of the foreign exchange "market" stand to reap enormous rewards from it. If they can secure foreign exchange at price P_1 they can resell it at P^*; alternatively, if they can import foreign goods at the artificially lowered price of P_1, they can resell them at the market clearing price of P^*. Moreover, the beneficiaries of this system are those in political control. For with fixed prices in the first instance, this "market" is in fact not a market at all; the initial allocation of

scarce resources takes place through administrative and political channels, and only in the second instance -- when the benefits of the scarcity are reaped in black markets -- through the establishment of competitive prices.

In this system, the beneficiaries are the Central Bank or those who make appointments to it. They are those who sit on the foreign exchange allocation committee and the committee which allocates import licenses, or those who make the appointments to these committees. They are those who receive import licenses, or who allocate them. The losers in this system are those who are not located in positions of access to this scarce resource and who nonetheless must purchase imported goods.

Typically there are no peasant farmers in the Central Bank or on the committee that allocates foreign exchange or import licenses. Yet the farmers rely on imports. Hoes, cutlasses, sprayers, pesticides, ox plows and implements, sacks and bags, milling machines, and so forth: these farm implements are often imported. Moreover, shirts, shoes, blankets, soap, batteries, etc.: these consumer goods are often imported or are manufactured with imported equipment. But given the scarcity of foreign exchange, the value of imports is extremely high (P^* in diagram 1); these imports will only be provided if they can command at least that value. The consequence is that the farmers must pay a premium to those who secure privileged access to foreign exchange or to the imports it can buy.

Overvaluation thus weakens the incentives to export. It

increases the costs of farming and raises consumer prices for farmers. And it does so while involving the farmers in a system of regulated foreign exchange markets: one in which they are subject to political and economic domination by persons with influence in the national capitol.

Not only does overvaluation lead to political-economic bondage; it can also place very strong limits on export markets. It can "squeeze" the farmer and/or the treasury even while providing benefits to those who secure imports or foreign exchange at the official exchange rate. This can be illustrated with figures drawn from the cotton industry in Uganda.

Say that the world price for seed cotton translated into the domestic currency at the official exchange rate was 42 Ush. per kilogram. Through the Marketing Board, the government then paid the farmer the price of 30 Ush. per kilogram; moreover, it allowed the processor a 7.40 Ush. per kilogram markup and the Board a charge of 4.60 Ush. per kilogram to cover its costs. Say that the next year the world price was to rise by roughly 20 percent, i.e. to around 50 Ush. per kilogram of seed cotton. But say that domestic inflation has been in the range of 200 percent, which in fact has been the case in Uganda. It can then be seen that maintaining the official exchange rate makes it impossible to maintain the former level of incentives to grow cotton without significant subsidies from government. The world market price is now 50 Ush. per kilogram; but the farmers' price cannot be doubled to offset the effects of inflation, for it would

then lie at 60 Ush. per kilogram. Either the farmer must be squeezed or the treasury must pay out subsidies; maintaining the existing exchange rate either leads to losses by the exporters or by the government.

Were the government to devalue, however, then the shilling price of exports would rise. Were the government to devalue by a factor of three, for example -- a magnitude which is not unreasonable in light of the magnitude of other recent devaluations of the Uganda shilling -- then the selling price of cotton would be 150 Ush. per kilogram. The farmers could receive the 60 Ush. per kilogram necessary to compensate them the 200 percent increase in their costs; so too could the processors and the Board, their markups now rising to 14.80 and 9.20 Ush. per kilogram respectively. Notwithstanding these increases, as a consequence of the devaluation, a surplus of 60 Ush. per kilogram of seed cotton would be left over, which could either be reapportioned among the members of the industry or redirected into the coffers of the government.

Export agriculture and the treasury thus have an incentive to ally in opposition to the present system, one which favors those who can get imports at their official prices and those who can turn the system of administrative controls to their political and economic advantage. But in most African societies, the treasury and the exporters are unable to achieve devaluation. Instead, as the above figures suggest, they are squeezed between the rate at which export earnings are converted into domestic currency and the rising tides of

domestic inflation.

Conclusion:

The marketing system for export crops, the burden of taxation and of inflated marketing costs born by export industries, and the overvaluation of domestic currencies -- all adversely affect the economic fortunes of export crop producers. In conjunction with other factors -- occasional drought and environmental stress, cost-rises from the increasing price of petroleum, and political unrest, to name but a few -- the major result is that once prosperous export industries have severely declined.

Nigeria: For nearly a century, palm oil formed an important basis for Nigeria's external trade. Early in the twentieth century, the British government, with the backing of British textile interests, constructed a major railway into the Nigerian interior and sought to promote the growth of cotton in the northern savannah. The Nigerian peasantry were more in touch with economic realities than were the colonial overlords, however; they exploited the economic opportunities provided by the railway to grow groundnuts instead. Only later did the peasants turn to the production of cotton and Nigeria then became one of Africa's major exporters of that crop. But, in recent years, as shown in table 5, the export of all three of these commodities has virtually terminated.

TABLE 5

Nigerian Agricultural Exports
(1000 tons)

	1970	1971	1972	1973	1974	1975	1976
Groundnuts	291	136	106	199	30	nil	nil
Palm Oil	8	20	2	nil	nil	31	3
Cotton	23	22	1	8	nil	nil	nil

Source: International Bank for Reconstruction and Development, "Nigeria: An Informal Bank Survey." Mimeographed, 1978.

Senegal: Following the construction of the railway from the coastal towns of Senegal into the interior, the peasants of Senegal entered into the production of groundnuts for export. Senegal rapidly became one of Africa's major producers of groundnuts and the government derived over 25 percent of its capital budget revenues from the export of this commodity. From nearly one million tons in 1964-65, the level of exports decreased to less than 50 percent of that by 1972-73 (table 6). This downturn became known as le malaise paysan and threatens Senegal's economy.

TABLE 6

Marketing of Groundnuts, 1965/66-1972/73, Senegal
(1000 tons)

	1965/66	1966/67	1967/68	1968/69	1969/70	1970/71	1971/72	1972/73
Marketed Production	993	781	834	781	623	447	747	375

Source: International Bank for Reconstruction and Development. Senegal: Tradition, Diversification, and Economic Development. Washington, D.C.: World Bank, 1974

Ghana: Since the early years of the twentieth century, Ghana has been the world's largest exporter of cocoa. In the 1960s, it produced nearly one-half the world's total crop. It now produces but one-third (see table 7). Failure to supply farm inputs, such as pesticides; shortages of labor; unfavorable prices; and the relative attraction of other forms of production -- all have been cited as possible causes for the decline of one of Africa's most famous industries.

TABLE 7

Production of Cocoa beans
(tons)

	1969-73[a]	1973/74	1974/75	1975/76	1976/77
Ghana	355,262	320,517	332,499	343,039	270,192
World	835,840	781,870	781,320	832,650	715,480

a. Average annual

Source: International Cocoa Organization, Quarterly Bulletin of Cocoa Statistics 5, No. 1 (1978):14.

Sudan: During the colonial era, British textile interests sought to render the African colonies a secure and low cost source of cotton fibres. Historically, the United States had provided raw materials for the British textile industry. But the American Civil War, the growth of the American textile industry, and the infestation of boll weevil -- all threatened the supply of United States cotton to British firms. In response, British textile interests lobbied their government to turn its overseas administration into an agency for promoting the growth and supply of cotton. One of the earliest and most famous projects which resulted was the Gezira scheme in the Sudan. In this project, modern technology was used to exploit the waters of the Nile and to devote the seemingly idle expanses of the Sudan interior to the production of high grade cotton. The irrigated growth of cotton in the Sudan became one of the most illustrious of Africa's agricultural projects. But, in recent years, this industry too has stagnated (table 8); and with the recent downturn in cotton prices, cotton irrigation in the Sudan fails to turn a profit.

TABLE 8

Production of Seed Cotton, Sudan

	Area (feddans)	Production (metric tons)	Average Yield (kg/feddans)
1970/71	1,209,584	730,933	604
1971/72	1,219,424	685,003	562
1972/73	1,176,882	555,608	472
1973/74	1,166,047	669,815	574
1974/75	1,219,391	647,032	531

Source: Democratic Republic of Sudan. Ministry of Agriculture, Food and Natural Resources. Department of Agricultural Economics. Statistics Division. Sudan: Yearbook of Agricultural Statics 1971, p. 19; and Current Agricultural Statics 1, No. 2 (June 1976):3.

The decline in the exports of Sudanese cotton, Ghanaian cocoa, Senegalese groundnuts, and Nigerian cotton, groundnuts and palm oil -- these represent recessions in some of the most significant export industries in Africa. These downturns have been countered by the prosperity of Africa's coffee industry; and some African nations, notably the Ivory Coast, have expanded their agricultural exports. But, as seen in tables 9-11, decline, rather than growth, has been the more typical pattern. As these tables show, while the value of African agricultural exports has risen, downturns in the volume of production have offset the effect of price increases, with the result that increases in the total value of African agricultural exports have lagged behind those of the other regions of the world.

TABLE 9

Index Numbers of Agricultural Exports, Unit Value
(1969-1971) = 100

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
World	95	95	93	96	100	104	114	156	208	213	208	237	244	269	295
Developing market economies	94	93	94	96	102	103	110	146	209	208	216	280	269	290	320
Developing all	94	93	94	96	101	103	110	146	208	209	215	275	266	287	317
Africa	88	90	92	96	103	101	104	133	184	189	208	310	306	328	339

TABLE 10

Index Numbers of Total Agricultural Exports, Volume
(1969-1971) = 100

	1966	1967	1968	1969	1970	1971	1971	1973	1974	1975	1976	1977	1978	1979	1980
World	91	90	93	94	102	104	112	121	115	116	126	130	138	146	154
Developing market economies	94	91	94	98	102	100	107	108	100	101	113	113	113	118	118
Developing all	96	93	95	99	102	100	107	110	101	102	113	113	115	118	118
Africa	101	94	100	99	103	98	109	109	103	94	99	86	85	85	84

Source: FAO, FAO Trade Yearbook 1977, 1980. Rome: Food and Agricultural Organization of the United Nations, 1978, 1981.

TABLE 11

Index Numbers of Total Value of Food Imports
(1969-1971 = 100)

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
World	84	84	84	88	100	111	130	188	254	285	275	294	341	406	483
Developing economies	90	92	93	89	101	110	122	194	324	348	313	354	427	507	693
Africa	89	87	82	83	99	118	131	189	308	378	323	392	483	527	703

Source: FAO, FAO Trade Yearbook 1977, 1980. Rome: Food and Agriculture Organization of the United Nations, 1978, 1981.

Food Crops

African governments also intervene in the market for food crops. And, once again, they tend to do so in ways that lower the price of agricultural commodities.

African governments seek low priced food. One way in which they attempt to do so is by constricting bureaucracies which purchase food crops at government mandated prices. A recent study by the United States Department of Agriculture examined the marketing system for food crops in Africa and discovered a high incidence of government market intervention (table 12). In the case of three of the food crops studied, in over 50 percent of the countries in which the crop was grown, the government had imposed a system of producer price controls; and in over 20 percent the government maintained an official monopsony for the purchase of that food crop.

TABLE 12: Patterns of Market Intervention for Food Crops

Crop	Countries in Which Crop Is Grown	Countries with: Producer price Controls		Legal Monopoly Over Crop	
	N	N	%	N	%
Rice	26	25	96	11	42
Wheat	12	8	67	4	33
Millet and Sorghum	38	9	24	7	18
Maize	35	24	69	9	26
Roots and Tubers	33	6	18	1	3

Source: United States Department of Agriculture, Food Problems and Prospects in Sub-Saharan Africa (Washington, D.C.: USDA, 1980), p. 173.

The regulation of food markets entails policing the purchase and movement of food stocks and control over the storage, processing, and retail marketing of food. An illustration is offered by the maize industry of Kenya; according to subsection 1 of section 15 of the Maize Marketing Act:

> All maize grown in Kenya shall, subject to the provision of this Act, be purchased by and sold to the Board, and shall, without prejudice to the Board's liability for the price payable in accordance with section 18 of this Act, rest in the Board as soon as it has been harvested.[24]

In one of the best studies of the maize market in Kenya, Schmidt notes that to insure the Maize and Produce Board's monopoly position all

movements of maize require a movement permit valid for only twenty-four hours which must be obtained from the MPB or another authorized person. The only exceptions are the movements of maize or maize products within the boundaries of the farm, the movement of not more than two bags (180 kg) accompanied by the owner and the movement of not more than ten bags within the boundaries of a district accompanied by the owner and intended for consumption by the owner or his family. Moreover, the Agricultural Produce Marketing Act and the Maize Marketing Act regulate the fixing of producer prices by the Ministry of Agriculture. In addition, the Price Controller, housed in the Ministry of Finance, fixes the depot, wholesale and retail prices for maize and maize flour.[25] The impact of these controls over the market for food crops is profound. Schmidt records two major consequences:

1. The costs of marketing increase. In part, this is because the government marketing board is less efficient than the private sector in the transport and storage of maize; and in part it is simply because the government imposed barriers to entry in the maize market confer excess profits on the agents who remain within the market. The nature and the magnitude of these higher costs is perhaps most vividly illustrated in the "bribe costs" which those operating in the regulated market can impose. To quote Schmidt:

> Bribing costs were not simply a problem with regard to illegal movements of maize and beans. More than 90 percent of the . . . agents mentioned this . . . in regard to deliveries to [Maize and Produce Board] depots. In fact, in some areas the problem was so severe that bribes were the major cost item for agents. Bribing is sometimes necessary for virtually all steps to get maize into the depots: obtaining movements, passing the gate, passing the moisture test, getting the lorry off-loaded and so forth.[26]

2. A second major consequence of the regulated maize market is price inefficiency. Under the present system, inter-regional price differentials exceed inter-regional costs of transport and inter-temporal price differentials exceed the costs of storage. The result is that many consumers pay higher prices and many producers receive lower prices than would be the case were maize to more easily move between places and over time. With a more efficient marketing system, farmers in places or periods of surplus could more easily consummate deals with consumers in places or periods of food deficit, deals from which both parties could reap an advantage. These unconsummated transactions constitute a loss of economic welfare.

More directly relevant to the concerns of this paper, however, is the impact of the food marketing controls on producer prices. For insight into this subject we can turn to Doris Jansen Dodge's study of NAMBoard, the food marketing bureaucracy in Zambia. Over the years studied by Dodge (1966/67 to 1974/74) NAMBoard depressed the price of maize as much as by 85 percent; that is, in the absence of government controls over maize movements, the farmers could have gotten up to 85 percent more for their sale of maize than they were able to secure under the market controls imposed by NAMBoard.[27] Gerrard extends Dodge's finding for Zambia to Kenya, Tanzania and Malawi; Dodge

herself extends them to eight other African countries.[28]

The primary beneficiary of the regulation of food markets is the consumer. This contention can best be illustrated by Dodge's work in Zambia. In the absence of government-priced maize in Zambia, Dodge indicates, local millers would have to buy maize at the world market price; were they to offer less, the farmers could then market their maize abroad. The parity price -- i.e. the world market price as it would register in the domestic market -- is presented in line 1 of table 13. With an extraction rate of 1.236, the costs of milling, and a 10 percent retail mark up, the price per 100 kg. bag of maize meal to the Zambian consumer rises to the figure shown on line 4. But the price actually charged the consumer is that shown on line 5. As can be seen ,the effect of the government's policy is to confer a subsidy of nearly 100 percent on the urban consumer.

Dodge's findings have been replicated in other countries, both in Africa and elsewhere.[29] These studies document that the effect of the market regulations is to depress the price to consumers at the expense of the producers of food, with the result of lower agricultural production, lower rural incomes, and lower rural employment. The estimated magnitudes of these effects for four non-African countries are presented in table 14.

TABLE 13: Maize Subsidies

(Kwacha)

	1966/67	1970/71	1973/74
1. Imported parity price of maize to miller	3.63	7.39	6.44
2. Import/export parity price of maize per 100 kg maize meal[a]	3.99	9.13	7.96
3. Milling costs per 100 kg maize meal	.82	.99	1.10
4. Import/export parity retail price per 100 kg maize meal[b]	5.29	11.13	9.97
5. Actual retail price	5.20	5.20	5.20
6. Subsidy to consumer per 100 kg maize meal	.09	5.93	4.77
7. Subsidy as percent retail price	1.7	11.4	91.7

Source: Doris Jansen Dodge, Agricultural Policy and Performance in Zambia (Berkeley, CA: Institute of International Studies, 1977), p. 118.

a. An estimated extraction rate of 1.236.

b. Sum of lines 2 and 3 plus a 10 percent retail margin.

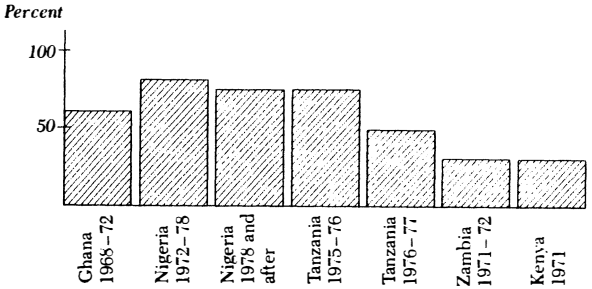
TABLE 14: Real Effects of Price Distortions, 1976

Country	Estimated Change in Production		Estimated Change in Consumption		Estimated Change in Agricultural Employment (average coefficients)		(marginal coefficients)	
	low	high	low	high	low	high	low	high
	'000 metric tons				full time workers			
ARGENTINA								
Wheat	-2,343	-7,028	329	988	-19,525	-58,567	-39,050	-117,133
Rice	-20	-59	5	16	-520	-1,534	-1,040	-3,068
Maize	-1,341	-4,083	318	953	-24,585	-74,855	-49,170	149,710
Beef	-273	-820	187	562	-1,638	-4,920	-3,276	-9,840
EGYPT								
Wheat	-255	-786	898	2,748	-18,700	-133,096	-43,180	-133,096
Rice	-1,068	-3,204	466	1,435	-128,160	-384,480	-185,120	-555,360
Maize	-450	-506	388	1,197	-36,000	-40,480	-72,000	-80,960
PAKISTAN								
Wheat	-417	-1,299	577	1,671	-34,333	-106,951	-74,087	-230,789
Rice	-465	-1,394	376	1,128	-44,950	-134,753	-54,250	-162,633
Maize	-5	-15	8	25	-500	-1,500	-800	-2,400
THAILAND								
Rice	-371	-1,165	139	323	-49,467	-155,333	-71,727	-225,233
Maize	5	16	0	-1	400	1,280	800	2,560
Sugar	55	166	-37	-112	6,197	18,703	9,295	28,054

Source: Malcolm D. Bale and Ernst Lutz, Price Distortions and Their Effects: An International Comparison, World Bank Staff Working Paper No. 359 (1979).

Thus far we have concentrated on the impact of government controls on food markets. But market regulation is not the sole way in which African governments seek to lower the price of food. Some governments finance large-scale production schemes. Irrigation and river basin projects are sometimes used to produce food.[30] State farms, farm settlement schemes, and prison farms are used elsewhere to generate food supplies.[31] Governments use revenues to subsidize the costs of farming; the bar graph below documents the levels of fertilizer subsidies for selected countries in Africa.[32]

Levels of Subsidization of Fertilizer for Various African Nations



Sources. *Ghana*: J. Dirck Stryker. "Ghana Agriculture." Paper prepared for the West African Regional Project. Mimeographed. 1975.
Nigeria: International Bank for Reconstruction and Development. "Nigeria: An Informal Survey." Mimeographed. 1978.
Tanzania: Ministry of Agriculture. *Price Policy Recommendations for the 1978–1979 Agricultural Price Review*, Annex 1. Mimeographed. 1977.
Zambia: Doris Jansen Dodge. *Agricultural Policy and Performance in Zambia*, Berkeley, California: Institute of International Studies, 1977.
Kenya: *Report of the Working Party on Agricultural Inputs*. 1971.

In efforts to increase food supplies, African governments also manipulate trade policies. We have already noted that local currencies are overvalued; in the absence of physical constraints or offsetting tariffs, the effect is to lower the price of imported food.

By comparison with the measures taken to protect domestic manufacturing, governments have implemented few such protective measures for agriculture; as seen in table 15, in connection with other factors, the effect has been a burgeoning growth of food imports.

Moreover, African governments often ban food exports; the consequence is the protection of domestic price levels that lie below the world market price. Illustrative is the decision taken by the Government of Uganda in 1981, which I quote:

Export Policy

At the . . . meeting held on 11th June, 1981 the Cabinet . . . decided as follows:

1. Approved an open door export policy for all products other than beans, peas, maize, sim sim, groundnuts and millet, except in special cases where the products were entirely required for our local industries.

2. Agreed that the Ministry of Commerce should periodically liaise with the relevant Ministries to avoid excessive exportation of items which might be badly needed locally at particular times.

3. Authorize the Ministry of Commerce to work out in consultation with the Ministry if Finance and Industry incentives for our exports.

TABLE 15

Index Numbers of Agricultural Exports, Total Value
(1969-1971) = 100

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
World	86	86	86	91	101	108	128	189	237	246	260	295	327	380	441
Developing market economies	89	85	88	94	104	102	117	160	208	211	242	298	301	334	368
Developing All	90	86	89	95	103	102	118	162	211	214	240	293	298	331	364
Africa	88	84	91	95	106	98	112	144	185	172	207	266	258	271	281

Source: FAO, FAO Trade Yearbook 1977, 1980. Rome: Food and Agricultural Organization of the United Nations, 1978, 1981.

> It is our intention to issue appropriate instructions to all exporters so that we start pushing our exports. In so doing, however, we shall liaise with you so that we avoid excessive exportation of items which might be badly needed locally at a particular time.

Clearly, despite the rhetoric supporting agricultural exports, the government of Uganda gave first priority to the local market. Similar bans have been placed on the export of commodities from other countries in order to prevent "shortages" and to hold down prices in local markets.[33]

Political Origins of Food Policy

What are the sources of government policy toward food crops? Put bluntly, food policy apears to represent a form of political settlement, one designed to bring peaceful relations between African governments and their urban constituents. And it is a settlement in which the costs tend to be born by the farmers.

The urban origins of African food policies are perhaps most clearly seen in Nigeria. If one looks at the historical origins of government food policy in Nigeria, one is drawn to the recommendations of a series of government commissions -- the Udoji Commission, the Adebo Commission, and the Anti-Inflation Task Forces, for example[34] -- which were impaneled to investigate sources of labor unrest and to resolve major labor stoppages. The fundamental issue driving urban unrest, they noted, was concern with the real value of urban incomes

and the erosion of purchasing power because of inflation. While recommending higher wages, these commissions also noted that pay increases represented only a short-run solution; in the words of the Adebo Commission, "It was clear to us that, unless certain recommended steps were taken and actively pursued, a pay award would have little or no meaning." "Hence," in the words of the Commission, "our extraordinary preoccupation with the causes of the cost of living situation."[35] As part of its efforts to confront the cause of the rising cost of living, the Commission went on to recommend a number of basic measures, among them any proposals "to improve the food supply situation." The origins of many elements of Nigeria's agricultural program lie in the recommendations of these reports.

Urban consumers in Africa constitute a vigilant and potent pressure group demanding low priced food. Because they are poor, they spend much of their income on food; most studies suggest that urban consumers in Africa spend between 50 and 60 percent of their incomes on food.[36] In addition, the demand for many food crops rises even faster. This is particularly the case for milk, sugar, rice and wheat.[37] Changes in the price of food therefore have a major impact on the economic well-being of urban dwellers in Africa and they pay close attention to the issue of food prices. Urban consumers are potent because they are geographically concentrated and strategically located. Because of their geographic concentration, they can quickly be organized; and because they control such basic services as transportation, communications, they can impose deprivations on

others. They are therefore influential. Urban unrest forms a significant prelude to changes of governments in Africa, and the cost and availability of food supplies is a significant factor promoting urban unrest.[38]

It should be noted that it is not only the worker who cares about food prices. It is also the employer. Employers care about food prices because food is a wages good; with higher food prices, wages must rise and, all else being equal, profits fall. Governments care about food prices not only because they are employers in their own right but also because as owners of industries and promoters of industrial development programs they seek to protect industrial profits. Indicative of the significance of these interests is that the unit that sets agricultural prices often resides not in the Ministry of Agriculture but in the Ministry of Finance or Commerce.

When urban unrest begins among food consumers, then, political discontent often rapidly spreads to upper echelons of the polity: to those whose incomes come from profits, not wages, and those in charge of major bureaucracies. Political regimes that are unable to supply low cost food are seen as dangerously incompetent and as failing to protect the interests of key elements of social order. In alliance with the urban masses, influential elites are likely to shift their political loyalties and to replace those in power. Thus it was that protests over food shortages and rising prices formed a critical prelude to the coup that unseated Busia in Ghana and led to the period of political maneuvers and flux that threatened to overthrow the

government of Arap Moi in Kenya.

It is ironic, but true, that among those governments most committed to low cost food are the "radical" governments in Africa. Despite their stress on economic equality, they impose lower prices on the commodity from which the poorest of the poor -- the peasant farmers -- derive their incomes. A major reason for their behavior is that they are deeply committed to rapid industrialization; moreover, they are deeply committed to higher real wages for urban workers and have deep institutional ties to organized labor.

We can thus understand the demand for low cost food. Its origins lie in the urban areas, i.e. among the consumers. It is supported by governments, both out of political necessity and, on the part of more radical ones, out of ideological preference. Its impetus derives from the fact that food is a major staple and that higher prices for such staples threaten the real value of wages and profits.

Partially confirming these contentions is statistical evidence concerning government controls over the retail price of rice. Taking the presence or absence of retail price controls for rice as a dependent variable, I have taken as independent variables the ideological preferences of the various governments,[39] data as to whether or not rice was an urban staple,[40] and measures of the domestic rate of inflation.[41] Employing these variables in a probit analysis, I secured results which suggest that insofar as rice is a staple of urban consumption, governments are more likely to subject it to retail price control; and the greater the rate of domestic

inflation, the more likely were governments to attempt to control the price of rice. Moreover, socialist and Marxist governments were more likely to impose price controls than were governments of no discernible ideological stance; capitalist governments were less likely to do so. I obtained similar results for my analysis of government control over the retail price of maize, with one exception. Inflation was not significant. But, interestingly, a measure of the concentration of urban dwelling was; the greater the proportion of urban dwellers concentrated in the nation's largest city, the more likely the government was to have retail price controls for maize.

There are thus deep seated political reasons for governments to seek to lower the price of food. There are also real limitations on their ability to do so. One limitation is political: insofar as farmers themselves are powerful, they are likely to resist the efforts of governments to lower agricultural prices. Only occasionally, however, are farmers powerful. In West Africa, urban/bureaucratic elites have entered rice farming; and where they have done so, they have achieved protected commodity prices and subsidized prices for farm inputs.[42] In East Africa, similar elites maintain large-scale wheat farms; they too have employed their political influence to avoid adverse pricing policies. But most farms are owned by members of the peasantry, not the elite; they are small-scale, not large-scale; and the farmers are politically weak, not strong. Rarely, then, are farmers powerful; and most often they are taxed.

Political influence on the part of farmers thus occasionally influences the behavior of governments. A more common influence is the limitation of governmental resources. When lower price levels are imposed on farmers, consumers may face shortages. Indeed, as shown in table 16, food production tends to be highly price elastic; a necessary corollary to price policies in Africa may therefore be the use of public resources to produce or to import food. But most African governments are poor, and most nations are short of foreign exchange. Governments therefore lack the resources by which to make up the shortfalls resulting from their pricing policies, and this places a major limitation on the degree to which they can lower agricultural prices.

Within these constraints, the policies of African governments create an economic environment for food production that is adverse to the interests of farmers. Governments support low price policies and employ market controls and trade policies so as to drive down the prices to farmers. As seen in tables 17-19, a major consequence may well be lower production and consumption. Table 17 documents the slow growth of production over the period 1967-1975; table 18 documents the decline in per capita production 1975-1980; and table 19 documents the resultant decline in consumption over time.

TABLE 16: Estimated Price Elasticities

	Kenya 1966-79				Tanzania 1964-78				Zambia 1905-78		Malawi 1965-71	
Total Production	Maize	Wheat	Rice	Export Crops	Maize	Wheat	Rice	Export Crops	Maize	Export Crops	Maize	Export Crops
Maize	.534 (3.75)	——	——	-.348 (-4.41)	.359 (1.50)	——	——	-.199 (-1.03)	.372 (1.67)	-.469 (-1.94)	.651 (2.35)	-.393 (1.52)
Wheat	-.980 (-3.95)	1.506 (5.67)		-.287 (-2.34)	-.650 (-1.16)	-.989 (1.97)	——	. . .	. . .	. . .	. . .	. . .
Rice	. . .	. . .	.484 (4.44)	-.331 (-4.40)	-.328 (-1.55)	. . .	.426 (2.39)	-.027 (-0.10)	. . .	. . .	. . .	. . .
Marketed Production												
Maize	1.149 (2.15)	. . .	. . .	-1.126 (-3.50)	2.290 (3.26)	. . .	. . .	-1.571 (-2.79)	.626 (1.45)	-.941 (-1.97)	3.956 (4.33)	2.702 (-3.23)
Rice	. . .	. . .	. . .		-.954 (-1.77)	. . .	2.290 (6.11)	-.803 (-1.58)				

. . . No estimate available.

T-statistics in parentheses.

Source: Christopher David Gerrard, "Economic Development, Government-Controlled Markets, and External Trade in Food Grains: The Case of Four Countries in East Africa." Ph.D. Dissertation, University of Minnesota, August 1981.

TABLE 17

Average Annual Growth Rates of Production, Area and Yield of Cereals in Developing Market Economies, by Region, 1960-75, 1960-66, and 1967-75
(percent)

Region	Period	All Cereals			Rice			Wheat			Coarse Grains		
		Production	Area	Yield (a)	Production	Area	Yield	Production	Area	Yield	Production	Area	Yield
Asia	1960-75	2.9	1.0	1.9	2.4	1.0	1.4	6.6	2.7	3.9	1.7	0.2	1.5
	1960-66	0.7	0.7	--	0.4	1.0	-0.6	0.6	0.3	0.4	1.1	0.5	0.6
	1967-75	2.7	0.8	1.9	2.4	1.0	1.4	6.9	3.2	3.7	0.9	-0.4	1.3
North Africa/ Middle East	1960-75	2.3	0.5	1.8	3.0	1.2	1.8	2.9	1.0	1.9	1.3	-0.2	1.5
	1960-66	1.7	-0.2	1.9	5.5	2.5	2.9	1.9	0.5	1.3	1.0	-1.4	2.4
	1967-75	1.0	0.4	0.6	-0.9	-0.5	-0.4	2.1	0.5	1.6	--	0.4	-0.4
Sub-Saharan Africa	1960-75	1.3	1.2	0.1	2.8	2.9	-0.1	2.5	0.3	2.2	1.1	1.0	0.1
	1960-66	2.6	2.3	0.3	4.0	2.7	1.4	3.7	2.3	1.4	2.4	2.3	0.1
	1967-75	0.5	0.6	-0.1	1.9	3.3	-1.4	-0.8	-2.6	1.8	0.4	0.4	--
Latin America	1960-75	3.5	2.1	1.4	2.7	2.7	--	1.7	1.0	0.7	4.2	2.2	1.9
	1960-66	5.6	3.4	2.2	3.8	4.7	-0.8	5.7	2.2	3.4	5.8	3.5	2.4
	1967-75	2.9	1.0	1.9	3.8	2.3	1.5	2.3	0.7	1.6	2.9	0.7	2.1
Total Developing Market Economies	1960-75	2.7	1.1	1.6	2.5	1.2	1.3	4.1	1.6	2.5	2.3	0.8	1.5
	1960-66	2.1	1.2	0.9	0.9	1.3	-0.4	2.4	0.7	1.6	2.9	1.3	1.6
	1967-75	2.4	0.7	1.6	2.4	1.2	1.2	4.0	1.5	2.5	1.4	0.2	1.2

Source: International Food Policy Research Institute, Food Needs of Developing Countries: Projection of Productivity and Consumption to 1990, Research Report 3 (December 1977), pp. 38-39.

(a) Output per hectare.

TABLE 18

Index Numbers of Per Capita Food Production
(1969-71 = 100)

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
World	97	100	100	99	100	101	99	102	103	104	104	105	107	106	105
Developing economies	95	97	97	99	101	100	98	100	101	104	105	105	107	107	108
Africa	96	93	99	100	100	100	99	93	98	96	96	92	92	90	91

Source: FAO, FAO Production Yearbook 1977. Rome: Food and Agriculture Organization of the United Nations, 1978, pp. 77-78.

TABLE 19

Total Grain Consumption Per Capita
(kilograms)

	1969/70	1970/71	1971/72	1972/73	1973/74	1974/75	1975/76
World	310.3	309.5	314.1	315.3	322.4	304.7	301.8
Developing market economies	186.1	188.2	185.2	182.8	186.6	182.9	187.5
Asia	172.7	177.4	169.1	169.2	177.3	168.0	173.9
Total North Africa/ Middle east	252.5	250.9	255.1	258.3	244.6	258.8	258.0
OPEC	194.0	190.4	198.9	212.2	191.9	202.4	201.2
Non-OPEC	278.9	278.2	280.6	279.3	268.8	284.8	284.2
Sub-Saharan Africa	142.5	144.8	137.0	130.0	123.1	127.7	131.6
Latin America	221.6	217.0	231.8	220.3	230.0	225.8	230.1

Source: International Food Policy Research Institute, Recent and Prospective Developments in Food Consumption: Some Policy Issues, Research Report 2, Revised Edition (July 1977), pp. 53-54.

Conclusion

This paper has argued that government policy in Africa tends to produce a harsh economic environment for the producers of agricultural products, and that a major effect may well be declines in agricultural production in that continent. Government bureaucracies control agricultural markets and set prices within them. Commercial policy is manipulated in ways that adversely affect the incomes of farmers. Pricing policies tend to be low price policies. A variety of pressures -- some deriving from the need for taxes and foreign exchange; others from political pressures brought to bear by organized interests -- drive these policy choices. But the general result is a weakening of the incentives for agriculture.

Notes

1. Alfred John Dadson, "Socialized Agriculture in Ghana, 1962-1965," Ph.D. Dissertation, Department of Economics, Harvard University.

2. William O. Jones, "Agricultural Trade Within Tropical Africa: Historical Background." In Agricultural Development in Africa: Issues of Public Policy, ed. Robert H. Bates and michael F. Lofchie (New York: Praeger Publishers, 1980).

3. The best source remains P. T. Bauer, West African Trade (London: Routledge and Kegan Paul, 1964).

4. Charlotte Leubuscher, Bulk Buying from the Colonies: A Study of the Bulk Purchase of Colonial Commodities by the United Kingdom Government (London: Oxford University Press, 1956).

5. Elspeth Huxley, No Easy Way: A History of the Kenya Farmers' Association and Unga Limited (Nairobi: Private Printing, 1957), pp. 137ff.

6. Bauer, West African Trade.

7. Details from "Treasury Memorandum, Statement of Cotton Price Assistance Fund at 31st October 1977," dated 11 November 1977. See also David Walker and Cyril Ehrlich, "Stabilization and Development Policy in Uganda: An Appraisal," Kyklos 12(1959):341-53.

8. Government of Uganda, Report of the Committee of Inquiry into the Coffee Industry 1966-1967 (Chairman: S. M. N. Kijambu) (Entebbe: Government Printer, 1967), p. 62.

9. See, for example, the discussion in H. M. A. Onitira and Dupe Olatunbosun, The Marketing Board System (Ibadan: Nigerian Institute of Social and Economic Research, 1974).

10. G. K. Helleiner, Peasant Agriculture: Government and Economic Growth in Nigeria (Homewood, Illinois: Richard D. Irwin, Inc., 1966), pp. 170-71.

11. Björn Beckman, Organizing the Farmers: Cocoa Politics and National Development in Ghana (New York: Holmes and Meier, 1976), p. 199.

12. Refer to Beckman, Organizing the Farmers and Western Nigeria, Report of the Commission of Enquiry in the Alleged Failure or Miscarriage of Plans to Effect a Revision of the Producer Price of Cocoa in January 1961 (Ibadan: Ministry of Trade and Industry, 1962).

13. David Bovet and Laurien Unnevehr, Agricultural Pricing in Togo, World Bank Staff Working Paper No. 467, 1981.

14. On the assumption that the quantity exported does not affect the world price.

15. Bovet and Unnevehr, p. 10. In fact, the evidence they present shows that the producer prices paid by the board consistently lay above the revenue maximizing prices predicted by their model. This implies either that the government had other objectives that it was maximizing at the expense of revenue collections from the industry or that it used a higher (possibly long-term) estimate of the elasticity of production.

16. A monopsony is a single buyer.

17. Ghana, Report of the Commission of Inquiry into the Local Purchasing of Cocoa (Accra: Government Printer, 1967), p. 28.

18. Ibid.

19. West Africa, November 27, 1978, p. 2386.

20. Sections 5 and 6 of paragraph 9 of the Coffee Marketing Act, Act 40 of 1969. To be noted is that the Coffee Price Assistance Fund is controlled not by the Board but by the Treasury.

21. Frank Ellis, Agricultural Pricing Policy in Tanzania 1970-79: Implications for Agricultural Output, Rural Incomes and Crop Marketing Costs (Economic Research Bureau, University of Dar es Salaam, n.d.), p. 35.

22. IBRD, Accelerated Development in Sub-Saharan Africa: An Agenda for Action (Washington, D.C., IBRD, 1981), p. 56.

23. One of the most useful such sources is Franz Pick, Pick's Currency Yearbook, 1976-1977 (New York: Pick Publishing Corporation, 1978).

24. Quoted in Guenter Schmidt, "Maize and Beans in Kenya: The Interaction and Effectiveness of the Informal and Formal Marketing Systems," Institute for Development Studies, University of Nairobi.

25. Ibid., p. 26.

26. Ibid., p. 68.

27. Doris Jansen Dodge, Agricultural Policy and Performance in Zambia (Berkeley, CA: Institute of International Studies, 1977). She compares the price in the domestic market with the price that could be got in the international market, given the official exchange rate and the costs of marketing.

28. Christopher David Gerrard, "Economic Development, Government Controlled Markets, and External Trade in Food Grains: The Case of Four Countries in East Africa," Ph.D. Dissertation, University of Minnesota, August 1981 and Doris J. Dodge, "Agricultural Pricing Policy in Sub-Saharan Africa in the 1970s," December 1980.

29. Jansen, op. cit. Gerard, op cit. See also Raj Krishna and G. S. Raychandhuri, "Some Aspects of Wheat and Rice Policy in India," World Banks Staff Working Paper No. 381, 1980; Lucio G. Reca, "Argentina: Country Case Study of Agricultural Prices and Subsidies," World Bank Staff Working Paper No. 386, 1980; Carl Gotsch and Gilbert Brown, "Prices, Taxes and Subsidies in Pakistan Agriculture, 1960-1976," World Bank Staff Working Paper No. 387, 1980; and William Cundihy, "Agricultural Price Management in Egypt," World Bank Staff Working Paper No. 388, 1980.

30. See the cases discussed in Judith Heyer, Pepe Roberts, and Gavin Williams, eds., Rural Development in Tropical Africa (New York: St. Martin's Press, 1981).

31. See the references cited in Robert H. Bates, Markets and States in Tropical Africa (Berkeley and Los Angeles: University of California Press, 1981).

32. It is important to realize how little general effect these subsidies have, however, for most African farmers use purchased inputs. Indicative of this is the small magnitude of the difference between the nominal and effective rates of protection. See, for example, the data presented in Jensen, op. cit.

33. See the discussion in Bates, Markets and States.

34. Government of Nigeria, Public Service Review Commission: Main Report (Udoji Report), Lagos: Ministry of Information, 18971); and First Report of the Anti-Inflation Task Force and Government Views on the First Report of the Anti-Inflatin Task Force (Lagos, Ministry of Information, 1975).

35. Nigeria, Second and Final Report, p. 93. Ibid., p. 10.

36. Hiromitsu Kaneda and Bruce F. Johnston, "Urban Food Expenditure Patterns in Tropical Africa," Food Research Institute Studies 2, No. 3(1961):229-75.

37. See, for example, the income elasticities published in USDA, Food Problems and Prospects in Sub-Saharan Africa (Washington, D.C.: USDA, 1980, p. 48.

38. See, for example, the accounts of the rise riots in Liberia which formed an important prelude to the fall of the Tobert regime in Africa, June 1979.

39. Data from Crawford Young, Ideology and Development in Africa (New Haven and London: Yale University Press, 1980).

40. Data from USDA, Food Problems and Prospects.

41. Data from USDA, Accelerated Development in Sub-Saharan Africa.

42. See the major study by Scott R. Pearson, J. Dirck Stryker, and Charles P. Humphreys, Rice in West Africa (Stanford, CA.: Stanford University Press, 1981).